

REMARKS

The Office Action, dated October 10, 2007, has been received and carefully noted. The above amendments to the Abstract, Drawings, and the Claims, and the following remarks, are submitted as a full and complete response thereto.

Following the current amendment and a prior election, claims 1-17, 19-21 and 39 are currently pending for consideration, of which claims 1, 17 and 39 are independent. In particular, Applicants amended claims 1-3, 7, 17, 19, and 39 and cancelled claim 18 without prejudice or disclaimer. It is respectfully submitted that the amendment added no new subject matter to the present application and serves only to more particularly point out and distinctly claim the invention. Applicants urge that all grounds for rejection in the Office Action have been addressed and that the present application is currently in condition for allowance in view of the amendment and the following arguments. Therefore, entry of the amendment and reconsideration of claims are respectfully requested.

Objection to the Abstract

The Abstract was objected to for minor informalities and for reading too much like a claim. Accordingly, Applicants have made appropriate corrections. The amendment to the Abstract added no new subject matter to the present application and serves only to comply with the relevant Rules and requirements. It is believed that all grounds for

IN THE DRAWINGS:

The attached Replacement Drawing sheets including formal drawings for Figs. 1-7, are submitted to replace the original drawing sheets including Figs. 1-7 as filed on October 2, 2003. No new matter has been added.

objection to the Abstract have been addressed. Reconsideration of the present application in view of this amendment is respectfully requested.

Objection to the Drawings

The Office Action noted that the draftsman has objected to the drawings because of poor line quality, and replacement drawings are required. Accordingly, Applicants attach herewith five replacement sheets that formal drawings for Figures 1-7. It is believed that all grounds for objection to the Drawings have been addressed. Reconsideration of the present application in view of this amendment is respectfully requested.

Rejection under 35 U.S.C. §112, Second Paragraph

Claims 8-11 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regards as the invention. In particular, the Office Action alleged that the phrase “the determined parameters” in claim 8 lacked proper antecedent basis. Claims 9-11 are rejected as depending from claim 8. Accordingly, Applicants have amended claim 7, from which claim 8 depends, to introduce this recited element. Accordingly, it is believed that the antecedent basis in claim 8 is now correct and all grounds for this basis of rejection have been addressed. Reconsideration and allowance of claims 8-11 in view of this amendment are respectfully requested.

Rejection under 35 USC §102(b)

Claims 1-6, 12, 16-21, and 39 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Publication No. 2001/0023395 (Su). According to the Office Action, Su teaches every claimed recitation of these claims. However, as will be discussed below, Su does not disclose the recited elements of claims 1-6, 12, 16-21, and 39. Thus, this rejection is respectfully traversed and reconsideration is requested.

Independent claim 1, from which claims 2-16 depend recites a method that includes at least one stage to encode a frame in a communication network using at least one codec modes, wherein an encoded frame formed by each of the codec modes includes several parameters. The stage includes preprocessing the frame to estimate values for the plurality of parameters. Then one group is selected from several groups of the codec modes using the estimated values, wherein each of the groups includes at least one of the codec modes and includes a common parameter characteristic. Then, the frame is encoded with one of the codec modes from the selected group in dependence on the common parameter characteristic.

Independent claim 17, from which claims 19-21 depend, relates to an apparatus that includes a processor configured to preprocess a frame to estimate values for several parameters. This frame is configured to be encoded in a communication network using at least one of several codec modes, wherein an encoded frame formed by each of the codec modes includes the plurality of parameters. A selecting circuitry is configured to select

one group from several groups of the codec modes, wherein each of the groups includes at least one of the codec modes and includes a common parameter characteristic. Also, an encoder is configured to encode the frame with one of the codec modes from the selected group in dependence on the common parameter characteristic.

Independent claim 39 recites an apparatus that includes a means for preprocessing the frame to estimate values for several parameters, wherein the frame is configured to be encoded in a communication network using at least one of several codec modes, wherein an encoded frame formed by each of the codec modes includes the plurality of parameters. In addition, the recited apparatus includes means for selecting from several groups of codec modes one group, wherein each of the groups includes at least one of the codec modes and a common parameter characteristic. A means for encoding encodes the frame with one of the codec modes from the selected group in dependence on the common parameter characteristic.

As will be discussed below, Su fails to disclose or suggest all of the elements of any of the presently pending claims. In particular, as conceded in the Office Action in the discussion of claim, Su does not disclose the feature of selecting a group of codec modes in dependence of parameters determined from the encoding of the frame.

Instead, Su discloses a process and device for selecting between several different codec modes for encoding and transmitting human speech. In particular, Su discloses, for example in FIG. 2 and the support text, a codec mode may be selected by examining the

raw speech data. For example, it is understood that when speech volume is low, then sampling rate may be reduced to preserve bandwidth.

Alternatively, Su at Figures 8-10 and the related text at paragraphs 0558-0562, as cited in the Office Action, discloses examining available bandwidth (or other transmission channel characteristics) and then selecting one of the codec modes depending on the determined transmission channel characteristics. In this way, the selection of the codec may be configured to maximize available transmission channel resources, even if the selected codec mode is non-optimal for the raw speech data. FIG. 9 and the related text further disclose, that the speech data may be preprocessed to predict future raw speech data.

The recited embodiment of the present application are directed to a different technical challenge of predicting characteristics of the encoded data and uses these predicted characteristics to select an appropriate codec mode to maximize transmission quality within the available transmission channel available resources. For example, paragraph 0015 of the present application describes how known algorithms determine a speech class before the encoding begins. As further described in paragraph 0067 of the present application, there are significant benefits to delaying the selection of a speech code mode, including the more accurate and appropriate selection of a codec mode.

Applicants respectfully submit that Su does not disclose using characteristics of the encoded frames to select a codec to encode the frame. To clarify and better define the recited embodiments, Applicants herein amended claim 1 to include the recitations of

“preprocessing the frame to estimate values for said plurality of parameters” of the encoded frame, and “selecting a group of codec modes” depending on the estimated values of the parameters of the encoded frames. In particular, there is no preprocessing to estimate characteristics of the encoded frame. Also, the selection between codecs in Su, as described above, is dependent on raw speech data or transmission channel characteristics.

At best, it could be argued, although not admitted by Applicants, that the embodiment disclosed in Su at FIGS. 8-10 includes defining a desired characteristic for the encoded frame (depending on the transmission channel characteristics such as a bit rate) and selecting a codec mode to achieve this desired characteristic of the encoded frame. Applicants urge that this disclosure does not teach or obviate the recitations of claim 1. In particular, Su does not disclose preprocessing of the encoded frame, but rather, a selection of codec to achieve a encoded frame having desired characteristics. Processing in Su may be used to predict future raw speech data, but not characteristics of the encoded speech. Furthermore, the selection of the codec mode in Su is not dependent on the preprocessing as recited in claim, but instead, on a desired end result. More specifically, Su discloses selection of a codec to enforce a desired final result from the encoding, not looking to an expected encoding results and selecting a codec to maximize system performance.

Consequently, Su does not disclose or suggest the recitations of claim 1 and the Office Action has not presented a correct rejection under 35 U.S.C. 102(b). Therefore,

Applicants urge that claim 1 is currently in condition for allowance and all grounds for rejection have been overcome. Likewise, claims 2-16 depend from claim 1 and should be allowed on similar grounds. Withdrawal of this rejection of claims 1-17 and reconsideration of these claims in view of the preceding arguments are respectfully requested.

Similarly, independent claim 17 and 39, although different in scope from claim 1 and rejected on different grounds, also contains similar recitations related to processing the speech frame to estimate characteristics of an encoded frame, and then using the results of the preprocessing to select appropriate codecs. Thus, Su similarly fails to teach or suggest each and every limitation recited in claims 17 and 39, and for at least this reason, Applicants urge that the rejection of claims 17 and 39 in view of Su is clearly improper. Likewise, claims 19-21 depend from claim 17 and should be allowed on similar grounds. Withdrawal of this rejection of claims 17, 19-21, and 39 and reconsideration of these claims in view of these arguments are respectfully requested.

Rejection under 35 U.S.C. 103(a)

Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Su. In particular, according to the Office Action, Staples does not disclose the limitations of claims 13-15 but asserts that these features are well known and/or inherent. However, as explained below, Su does not disclose each and every recited feature of claims 13-15. Thus, the rejection is respectfully traversed and reconsideration is requested.

As argued above, claim 1 is allowable over Su. Similarly, claims 13-15 should be allowable as depending from allowable claim 1. Because, for the rejection to be effective, Su must teach all the recitations of the base claim 1 and any intervening claims of dependent claims 13-15, the arguments presented above supporting the patentability of independent claims 1 over Su are incorporated herein.

For these and other reasons, Su does not teach or suggest the recitation of claims 13-15, and the rejection of these claims is traversed. Withdrawal of this rejection of claims 13-15 and reconsideration of these claims in view of the preceding arguments are respectfully requested on this basis.

Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Su in view U.S. Patent No. 6,226,607 (Chang). Similarly, Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Su in view of Chang, and further in view of allegedly well-known prior art. According to the Office Action, Staples does not disclose a selection of a group of codec modes in dependence of parameters determined from the encoding of the frame but this feature is disclosed in Chang. However, as explained below, Chang does not disclose this recited feature and, therefore, does not make up for the deficiencies in Su. Thus, the rejection is respectfully traversed and reconsideration is requested.

As argued above, claim 1 is allowable. Similarly, claims 7 through 10 should be allowable as depending from allowable claim 1. Because the combination of Su and Chang must teach, individually or in combination, all the recitations of the base claim and

any intervening claims of dependent claims 7 through 10, the arguments presented above supporting the patentability of independent claims 1 over Su are incorporated herein. The Action expressly conceded that Staples does not teach or suggest the limitations of claims 7 through 10, and for at least the reasons provided below, Chang does not make up for the deficiencies in Staples.

In particular, the cited section of Chang at FIG. 4 and column 5 discloses a conventional method in which the raw speech data is evaluated to determine the energy level of that speech data. In particular, Applicants note in FIG. 4 that the energy detection in step 302 occurs prior to the encoding in steps 306, 310, 314, or 316. Thus, the supposed codec mode of selecting a bit rate may depend on the raw speech data, and not a processing of the speech data to predict characteristics of the encoded frame.

Thus, Chang does not teach or suggest preprocessing the frame to predict characteristics of an encoding frame and using these predict characteristics to select between different groups of codec modes. For these and other reasons, the combination of Su and Chang does not teach or suggest the recitation of claims 7-10, and the rejection of these claims is traversed. Withdrawal of this rejection of claims 7-10 and reconsideration of these claims in view of the preceding arguments are respectfully requested on this basis.

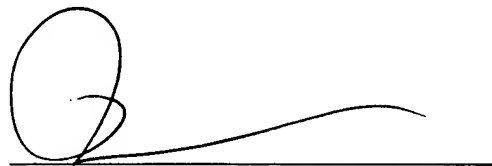
As discussed above, each of claims 1-17, 19-21, and 39 recites subject matter which is neither disclosed nor suggested in the cited prior art. Applicants submit that the recited subject matter is more than sufficient to render the invention non-obvious to a person of

ordinary skill in the art. It is respectfully requested that independent claims 1, 17, and 39 and the related dependent claims be allowed in view of the above arguments comments and remarks.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

A handwritten signature in black ink, consisting of a large, stylized 'D' followed by a horizontal line extending to the right.

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Enclosures: Replacement Formal Drawings (5 sheets – Figs. 1-7)